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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,952

11/21/2003

William D. Hitz

BB1077 US DIV

4183

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04/20/2006

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
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WILMINGTON, DE 19805

EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,952	Applicant(s) HITZ ET AL.	
	Examiner Medina A. Ibrahim	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 7 is/are rejected.
- 7) ☒ Claim(s) 3,4,9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/17/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant's response filed 1/17/06 in reply to the Office action of 07/14/05 has been entered. Claims 2, 5, and 8 are cancelled. Claims 1, 3-4, 6-7, and 9-10 are amended. Therefore, claims 1, 3-4, 6-7, and 9-10 are pending and are examined. Examiner notes that the amendment to claim 7 is not in compliance with Rule 1.121 which requires that the text of any added subject matter must be shown by underlining the added text. The statement "or 11 using the Clustal method of alignment" should have been underlined.

The IDS of 1/17/06 has been considered; initialed and dated copy of the IDS form 1449 is attached to this Office action. The Sequence Listings of 01/19/06 have been entered.

All previous rejections and objections not set forth below have been withdrawn in view of Applicant's amendment and/or upon further consideration. The written description rejection has been withdrawn in view of Majumder et al (Biochem. Biophys. Acta (1997) 1348:245-256) cited by Applicant.

Claim Rejections - 35 USC § 112

Claims 1 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7 are indefinite in the recitation of "using" without any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. The claims are also indefinite because "the Clustal method of alignment" lacks antecedent basis. The statement also implies that there is only one Clustal method of alignment, and it is unclear if there is only one.

Claim Rejections - 35 USC § 112

Claims 1 and 6-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the isolated nucleic acid of SEQ ID NO: 1, 5, 11 and 15 and chimeric gene comprising said nucleic acids, does not reasonably provide enablement for all nucleic acid fragments encoding a soybean myo-inositol phosphate synthase including those that are 90% sequence identity to SEQ ID NO: 1, 5, 11 or 15 and the complement and subfragments thereof. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is repeated for the reasons of record as set forth in the last Office action of 07/14/05. Applicant's arguments filed 01/19/06 have been considered but are not deemed persuasive.

Applicant argues that sequences of the invention comprise regions and domains that are associated with the myo-inositol 1-phosphate synthase function. Applicant cites Majumder et al (Biochem. Biophys. Acta (1997) 1348:245-256) and (FEBS Lett. 553: 3-

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10 (2003)) to support this position. Applicant further argues that the specification discloses SEQ ID NO: 2 and 16 that vary at amino acids 10, 50, 52, 57, 175, 412, and 444, suggesting these amino acid positions would tolerate modifications. Applicant further argues that the disclosed sequences of SEQ ID NO: 6 and 12 indicate that glycine at position 87 and lysine at position 396 are important for the enzyme function. Applicant, therefore, asserts, the specification provides guidance to practice the claimed invention without undue experimentation. Applicant, therefore, requests that the rejection be withdrawn (response, p. 10-11).

These are not found persuasive because Applicant's arguments are not commensurate in scope with the claims. The scope of the nucleic acid fragments having 90% sequence identity to SEQ ID NO: 1, 5, 11, and 15 and subfragments thereof, encompasses large number of nucleic acid sequences with multiple of sequence modifications that extend far beyond the modifications in the seven amino acid positions of disclosed sequences of SEQ ID NO: 1-2 and 15-16. While single amino acid modifications are known, it is not routine in the art to screen for multiple substitutions or multiple modifications as encompassed by the instant claims. One skilled in the art would expect any tolerance to modification for a given DNA/protein to diminish with each further and additional modification or multiple substitutions/ deletions. One skilled in the art would have to make all possible nucleotide substitutions and deletions in the at least 1500 nucleotide long sequences of SEQ ID NO: 1, 5, 11, or 15 and test all nucleotide sequences that meets the structural limitations to determine which also meet the functional limitation. In addition, the specification does not provide guidance

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regarding subfragments of any size thereof that are capable of decreasing expression of an endogenous or native soybean myo-inositol 1-phosphate synthase, as stated in the last Office actions.

Therefore, given the lack of sufficient guidance in the specification; the limited working examples; the nature of the invention; the state of the art and unpredictability as discussed in the last Office action, the claimed invention is not enabled throughout the broad scope.

Remarks

The claims are deemed free of the prior art of record.

Claims 3-4 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM. Before and after final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

4/17/06

Mai

MEDINA A. IBRAHIM
PRIMARY EXAMINER

Medina A. Ibrahim